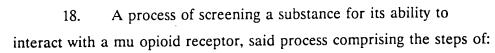
WHAT IS CLAIMED IS:

- 1. An isolated and purified polynucleotide that encodes a mu opioid receptor polypeptide.
- 2. The isolated and purified polynucleotide of Claim 1, wherein said polynucleotide is a DNA molecule.
- 3. The DNA molecule of Claim 2, wherein said encoded polypeptide comprises the amino acid residue sequence of SEQ ID NO:2.
- 4. The isolated and purified polynucleotide of Claim 1, wherein said polynucleotide comprises the nucleotide base sequence of SEQ ID NO:1.
- 5. An isolated and purified polynucleotide that encodes a gene transcription regulatory polypeptide.
- 6. The DNA molecule of Claim 5, wherein said encoded polypeptide comprises the amino acid residue sequence of SEQ ID NO:4.
- 7. The isolated and purified polynucleotide of Claim 5, wherein said polynucleotide comprises the nucleotide base sequence of SEQ ID NO:3.
- 8. An isolated and purified polynucleotide comprising a base sequence that is identical or complementary to a segment of at least 10 contiguous bases of SEQ ID NO: 1 or SEQ ID NO: 3, wherein said polynucleotide hybridizes to a polynucleotide that encodes a mu opioid receptor polypeptide or a gene transcription regulatory polypeptide.
 - 9. An isolated and purified mu opioid receptor polypeptide.

- 10. The opioid receptor polypeptide of Claim 9, wherein the polypeptide is a recombinant polypeptide.
- 11. The opioid receptor polypeptide of Claim 9 that comprises the amino acid residue sequence of SEQ ID NO:2.
- 12. An isolated and purified gene transcription regulatory polypeptide that comprises the amino acid residue sequence of SEQ ID NO:4.
- 13. An expression vector comprising a polynucleotide that encodes a mu opioid receptor polypeptide.
- 14. A recombinant host cell transfected with a polynucleotide that encodes a mu opioid receptor polypeptide.
- 15. A process of preparing a mu opioid receptor polypeptide comprising:
 - (a) transfecting a cell with a polynucleotide that encodes said polypeptide to produce a transformed host cell; and
 - (b) maintaining the transformed host cell under biological conditions sufficient for expression of the polypeptide.
- 16. An antibody immunoreactive with a mu opioid receptor polypeptide.
- 17. A process of detecting a mu opioid receptor polypeptide, wherein the process comprises:
 - (a) immunoreacting said polypeptide with the antibody of Claim 16 to form an antibody-polypeptide conjugate; and
 - (b) detecting the conjugate.



- a) providing a mu opioid receptor polypeptide;
- b) testing the ability of said substance to interact with said opioid receptor.

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